

Abstract of the Disclosure:

Methods and apparatus for data transmission control protocols. Acknowledgement streams are used by a sender process to generate various estimates of eligible transmission rates that are fair to other processes competing for bandwidth across a common network. In addition, the acknowledgement streams are used in conjunction with various other standard transmission control protocol metrics to adapt a filter for use on the rate estimates. Additional improvements in throughput may be had by measuring the overall capacity of the computer network using packet pair dispersion measurements and adaptive network probing. In addition, the methods may be adapted for both packet transmission and video streaming applications.